**Chapter 7, 8, and 9 Study Guide**

1.What is the basis of a metallic bond?

2. How do alkaline earth metals react to forming compounds? What happens to their electrons?

3. Write the formulas for the following compounds:

Sodium sulfate

Sodium sulfite

Sodium Sulfide

4. What happens to electrons in covalent bonds? (Hint all elements want to behave like noble gases)

5. What type of elements (metals, nonmetals, and metalloids) make up ionic bonds?

6. What are the prefixes used in naming covalent bonds?

7. Write the name for the following formulas:

N2O5

O2F6

SF6

8. Ionic compounds exists as what state of matter at room temperature?

9. What are the diatomic molecules?

10. Which diatomic molecules have single covalent bonds?

11. Which diatomic molecules have double covalent bonds?

12. Which diatomic molecules have triple covalent bonds?

13. Name the following ions:

N3-

F1-

Na+

Mg2+

Fe3+

14. How many valence electrons does each group have?

15. What type of ions make up an ionic bond?

16. What are the electrons found in the highest orbital called?

17. What are the properties of an ionic compound?

18. What are the properties of a covalent compound?

19. What is a binary compound?

20. What is used in a name of a transition element to indicate the charge?

21. What is the overall net charge of ionic compounds?

22. In writing a name for an ionic compound, what is written first (cation or anion)?

23. What is a polar bond?

24. What is a nonpolar bond?

25. What is the octet rule?